



October 31, 2012


Mr. Manuel Schmaedick
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219


**Subject: Sampling Trip Report
Harcros Chemicals Inc., Kansas City, Kansas
U.S. EPA Region 7 START 3, Contract No. EP-S7-06-01, Task Order No. 0004.034
Task Monitor: Manuel Schmaedick, On-Scene Coordinator**

Dear Mr. Schmaedick:

Tetra Tech EM Inc. is submitting the attached Sampling Trip Report regarding the Harcros Chemicals Inc. site in Kansas City, Kansas. If you have any questions or comments, please contact the project manager at (816) 412-1936.

Sincerely,


for Lynn Parman, PG, CHMM
START Project Manager


Ted Faile, PG, CHMM
START Program Manager

Enclosure

cc: Roy Crossland, EPA Project Officer (cover letter only)

**SAMPLING TRIP REPORT
HARCROS CHEMICALS INC. – KANSAS CITY, KANSAS**

**Superfund Technical Assessment and Response Team (START)
Contract No. EP-S7-06-01, Task Order No. 0004.034**

Prepared For:

U.S. Environmental Protection Agency
Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

October 31, 2012

Prepared By:

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415 Oak Street
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1.0 INTRODUCTION

The Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to conduct a Removal Site Evaluation (RSE) at the Harcros Chemicals Inc. (Harcros) site in Kansas City, Kansas. The purpose of this RSE was to support an EPA criminal investigation to determine whether hazardous materials had been buried in a flat, grass-covered area in the northwest portion of the property. Reportedly buried at this location were asphalt rubble and possibly other debris/wastes that originated from a nearby area where a Resource Conservation and Recovery Act (RCRA) corrective action had occurred.

In August 2012, Burns & McDonnell Engineering Company, Inc., (Burns & McDonnell) conducted a geophysical survey at the suspected burial area to identify anomalies that could represent buried materials. Ground penetrating radar (GPR) equipment was used for the survey, which proceeded along 29 north-south transects (spaced 2 feet apart) that covered a rectangular area encompassing approximately 56 by 96 feet. During the survey, anomalies observed at three primary areas indicated presence of buried materials at depths of approximately 2 to 3 feet below ground surface (bgs).

START was tasked to subcontract a qualified consultant to conduct exploratory trenching in the areas of interest, and collect samples of unearthed materials for laboratory analysis. Field activities for this activity were conducted in accordance with the EPA Region 7 Quality Assurance Project Plan (QAPP) for Emergency Response Actions (EPA 2000), or as otherwise described in this report. START's activities were under the direction of EPA Region 7 On-Scene Coordinator (OSC) Manuel Schmaedick.

2.0 SITE LOCATION/DESCRIPTION

The site is at 5200 Speaker Road in Kansas City, Wyandotte County, Kansas (see Appendix A, Figure 1). The site is in a primarily industrial area, with some residential and agricultural properties nearby. Railroad tracks are along the northern property boundary, and the Kansas River is approximately 0.4 mile to the north. The following geographic coordinates are near the center of the area of concern for this investigation (i.e., where burial of materials allegedly occurred): 39.09781 degrees north latitude, and 94.69993 degrees west longitude.

3.0 BACKGROUND

The active Harcros facility manufactures surfactants, emulsifiers, defoamers, phosphate esters, and specialty chemicals. The company also previously produced dry cleaning chemicals and herbicides that

included 2,4-dichlorophenoxyacetic acid (2,4-D), 2,4,5-trichlorophenoxyacetic acid (2,4,5-T), and 2,4,5-trichlorophenoxypropionic acid (2,4,5-TP or Silvex). Large volumes of chemicals are stored on the property for manufacturing processes that occur there. In addition, Harcros has operated several on-site laboratories to develop and test new chemical products. The facility has operated at this location (under different names/ownership) since 1917.

Several environmental-related violations and followup enforcement actions have occurred at the facility, including an ongoing corrective action under authority of RCRA. This corrective action, begun in 1990, has involved cleanup of soil and groundwater containing chlorinated solvents, benzene compounds, pesticides, and other contaminants that have been released at the site (from a surface impoundment, aboveground storage tanks [AST], etc.). Other RCRA violations have also been noted during inspections by EPA and the Kansas Department of Health and Environment (KDHE), including storage of hazardous waste (some in leaking or otherwise deteriorated containers) without a permit, and failure to determine the hazardous nature of site-derived wastes.

Violations of the Clean Air Act (Section 112r), involving non-compliance with Risk Management Plan (RMP) requirements, have also been identified at the facility. These violations have included failure to maintain proper documentation of the following: training after process changes, correction of deficiencies identified during a compliance audit, and injuries sustained by a facility employee. The facility also neglected to follow up on recommendations from an Incident Investigation (conducted following the aforementioned employee injury).

4.0 SAMPLING ACTIVITIES

At about 0840 hours on October 3, 2012, START team members (STM) Lynn Parman, Rick Claytor, and Adam Watkins arrived at the site, after a warrant had been served to Harcros by EPA Criminal Investigation Division (CID) personnel. START was accompanied by OSCs Schmaedick and Megan Schuette, along with Brian Murphy of Environmental Restoration LLC (ER)—under contract to Tetra Tech. All were escorted by Harcros personnel to the alleged burial area adjacent to (west of) an asphalt-covered area being used to stage miscellaneous equipment, tanks, piping, etc. (see Appendix A, Figure 2). A mini excavator had been delivered to the site by a local rental company that morning to be used by ER. Survey flags observed in the area of interest were assumed to represent the corners of the rectangular area where the aforementioned geophysical survey had been conducted. START used a hand-held global positioning system (GPS) unit to confirm that these flags were at the coordinates specified in the

geophysical survey report, and banner guard was placed along the north, south, and east sides of the area to represent the “exclusion zone” for exploratory excavation and sampling activities.

START conducted real-time air monitoring for volatile organic compounds (VOC), carbon monoxide (CO), hydrogen sulfide (H₂S), oxygen (O₂), and lower explosive limit (LEL) conditions with a RAE Systems MultiRAE Plus[®] in the breathing zone throughout the reported burial area. Monitoring for gamma radiation was performed with a Ludlum Model 192 Survey Meter. No readings for any of those parameters were detected above background levels; therefore, it was determined sampling activities could be conducted using Level D personal protective equipment (PPE), with real-time air monitoring.

EPA requested an emergency marking of underground utilities in the area of interest, and excavation commenced at about 1000 hours at an on-site background location after the bucket of the mini excavator had been decontaminated with an Alconx and tap water wash followed by a tap water rinse. Soil samples were collected by START at the background location from two depths (0 to 1 foot bgs and 3-4 feet bgs). These depths were anticipated to represent approximate sampling depths in the reported burial area and in another area (about 150 feet north of the burial area) where a release to surface soil from an AST was suspected to have occurred (based on aerial photographs showing a large area of stressed vegetation). At each sampling interval, a grab sample of soil was collected following EPA Method 5035 guidelines for laboratory analysis of VOCs. For each of those samples, a disposable plastic syringe was used to collect approximately 5 grams of soil, which was transferred to two 40-milliliter (ml) glass vials containing a sodium bisulfate solution (i.e., each vial contained approximately 5 grams of sampled soil). Two other 40-ml vials were filled for determination of percent solids and possible analysis of high-level VOCs. Within the 0-to-1-foot sampling interval, the grab sample for analysis of VOCs was collected from a depth of 1 foot bgs. Additional soil collected from the sampling interval using a disposable stainless steel spoon was placed in a disposable aluminum pie pan for homogenization, and then was transferred to a 32-ounce jar for laboratory analysis of semivolatile organic compounds (SVOC), organochlorine pesticides, and chlorinated herbicides. New nitrile gloves were worn for collection of each sample. See Table 1 for a summary of samples collected at the site. Sample locations are also shown on Figure 2 in Appendix A. After sampling had been completed at the background location, the excavated soil was returned to the pit, and the bucket of the mini excavator was decontaminated as before.

In the aforementioned area north of the burial area where a release from an AST was suspected to have occurred, START used a shovel to excavate to a depth of 1 foot bgs at two locations. Soil samples were collected from a depth of 0 to 1 foot bgs at those locations (see Table 1). Samples for analysis of SVOCs, organochlorine pesticides, and chlorinated herbicides were collected from the entire 1-foot interval, while

grab samples for analysis of VOCs were collected from a depth of 1 foot bgs. The shovel was decontaminated with an Alconox and tap water wash followed by a tap water rinse before and after collection of each sample.

START used a measuring wheel to locate approximate areas where anomalies had been found in the reported burial area during the previous geophysical survey. Marking paint was used to identify those locations. The mini excavator was relocated to the exclusion zone, and excavation proceeded at two of those marked locations (identified as Trench #1 and Trench #2, corresponding to B-B' and D-D', respectively, in the geophysical report). At each of those locations, asphalt rubble and soil (light brown, sandy, silty loam) were unearthed and placed on plastic sheeting. No visible staining was observed, and no readings above background for VOCs were obtained with the MultiRAE Plus® from either trench. Undisturbed soil was encountered at a depth of about 6 feet bgs. Soil samples were collected by START between 2 and 5 feet bgs from four locations at Trench #1 and from two locations at Trench #2 (see Table 1). Soil samples were collected for laboratory analysis from 1-foot depth intervals at each location as previously described, including one field duplicate. Depth intervals for the samples were based on visual inspection and determination by EPA personnel.

TABLE 1
SAMPLE SUMMARY
HARCROS CHEMICALS INC. – KANSAS CITY, KANSAS

| Sample ID | Location | Depth (feet bgs) | PID Reading (ppm) | Latitude (degrees N) | Longitude (degrees W) |
|-----------|---------------|------------------|-------------------|----------------------|-----------------------|
| 5926-1 | Background | 0-1 | 0 | 39.09748 | 94.70043 |
| 5926-2 | Background | 3-4 | 0 | 39.09748 | 94.70043 |
| 5926-3 | North area #1 | 0-1 | 0 | 39.09846 | 94.69990 |
| 5926-4 | North area #2 | 0-1 | 0 | 39.09841 | 94.70000 |
| 5926-5 | Trench #1A | 3-4 | 0 | 39.09781 | 94.69989 |
| 5926-6 | Trench #1B | 3-4 | 0 | 39.09779 | 94.69984 |
| 5926-6FD | Trench #1B | 3-4 | 0 | 39.09779 | 94.69984 |
| 5926-7 | Trench #1C | 2-3 | 0 | 39.09781 | 94.69990 |
| 5926-8 | Trench #1D | 2-3 | 0 | 39.09781 | 94.69980 |
| 5926-9 | Trench #2A | 2-3 | 0 | 39.09782 | 94.69992 |
| 5926-10 | Trench #2B | 4-5 | 0 | 39.09783 | 94.69993 |

Notes:

PID readings for volatile organic compounds were taken with a RAE Systems MultiRAE Plus®.

| | | | |
|-----|----------------------|-----|--|
| bgs | Below ground surface | PID | Photoionization detector (calibrated with isobutylene) |
| FD | Field duplicate | ppm | Parts per million |
| ID | Identification | W | West |
| N | North | | |

After sampling had been completed, the excavated soil was returned to the trenches, and the mini excavator was used to level the excavated areas. The bucket of the mini excavator was then decontaminated as before.

All sample containers were labeled, and pertinent data, including analyses to be performed and exact sample locations, were recorded on field sheets for each sample. A chain-of-custody record was completed and signed to document sample control from time of sample collection until laboratory analysis (see Appendix B). Custody seals were placed across the lid of each 32-ounce jar and 1-liter cubitainer (used to hold 40-ml vials) for each sample. The packaged samples were photographed and placed in a cooler containing ice, and then a custody seal was placed across the lid of the cooler. The samples were delivered to the EPA Region 7 laboratory in Kansas City, Kansas, by EPA personnel at about 1700 hours. START personnel departed the site at about 1720 hours, and ER personnel departed at about 1730 hours, after the mini excavator had been retrieved by the rental company.

5.0 SUMMARY

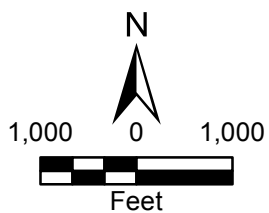
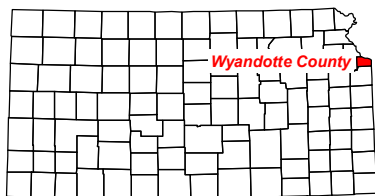
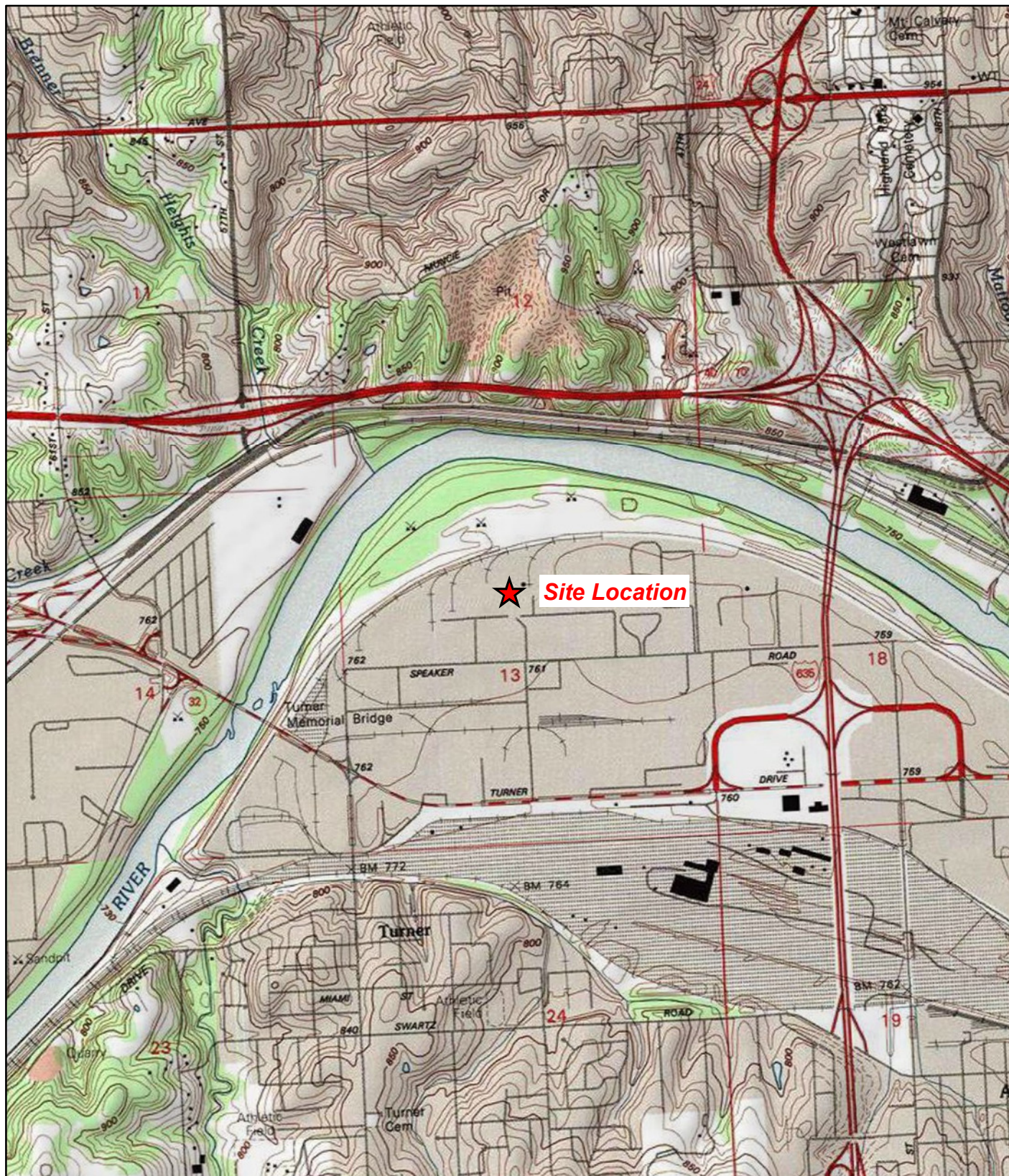
On October 3, 2012, Tetra Tech START assisted with an RSE at the Harcros site in Kansas City, Kansas, where potentially hazardous materials had been allegedly buried in a grass-covered area at the northwest portion of the property. For the investigation, Tetra Tech subcontracted a qualified company to conduct exploratory excavation in the suspected burial area. In addition, soil samples were collected for laboratory analysis from (1) the reported burial area, (2) another area where a release from an AST was suspected to have occurred, and (3) an on-site background location. Eleven soil samples (including one field duplicate) were submitted to the EPA Region 7 laboratory for analysis of VOCs, SVOCs, organochlorine pesticides, and chlorinated herbicides. All laboratory data will be reviewed by EPA to determine whether followup response is warranted.

6.0 REFERENCES

- Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell). 2012. Geophysical Survey Report. Harcos Chemical Inc. Property, Kansas City, Kansas. August 24.
- U.S. Environmental Protection Agency (EPA). 2000. Quality Assurance Project Plan for Emergency Response Actions. June 21.

APPENDIX A

FIGURES



Harcros Chemicals Inc.
Kansas City, Kansas

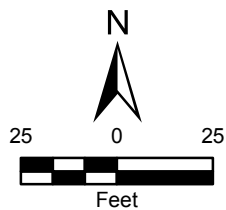
Figure 1 Site Location Map





Legend

- ⊕ Soil sample location
- Reported burial area
- Suspected spill area
- Trench
- FD Field duplicate



Harcros Chemicals Inc.
Kansas City, Kansas

Figure 2
Site Layout and Sample Location Map



APPENDIX B

FIELD SHEETS AND CHAIN-OF-CUSTODY RECORD

| | | | | | | | | | | | |
|--|---|---|--------|--|---------------------------|--|-----------------|----------|------|---|-------|
| ACTIVITY LEADER(Print) Manuel Schmiedick | | NAME OF SURVEY OR ACTIVITY Thompson-Hayward Chemical | | DATE OF COLLECTION 03 / 10 / 12 DAY MONTH YEAR | | | SHEET 1 of 1 | | | | |
| CONTENTS OF SHIPMENT | | | | | | | | | | | |
| SAMPLE NUMBER | TYPE OF CONTAINERS | | | | | SAMPLED MEDIA | | | | RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.) | |
| | CUBITAINER | 32 oz BOTTLE | BOTTLE | BOTTLE | 4 VOA SET (2 VIALS EA) | water | soil | sediment | dust | | other |
| | NUMBERS OF CONTAINERS PER SAMPLE NUMBER | | | | | | | | | | |
| 5926-1 | | 1 | | | 1 | X | | | | | |
| -2 | | 1 | | | 1 | X | | | | | |
| -3 | | 1 | | | 2 (8 vials) | X | | | | | |
| -4 | | 1 | | | 1 | X | | | | | |
| -5 | | 1 | | | 1 | X | | | | | |
| -6 | | 1 | | | 1 | X | | | | | |
| -6FD | | 1 | | | 1 | X | | | | | |
| -7 | | 1 | | | 1 | X | | | | | |
| -8 | | 1 | | | 1 | X | | | | | |
| -9 | | 1 | | | 1 | X | | | | | |
| ↓ -10 | | 1 | | | 1 | X | | | | | |
| <div>Handwritten: H. Seiler 10/3/12</div> <div>Handwritten: Complete</div> <div>Handwritten: (acting for M. Davis)</div> <div>Handwritten: NOTE: OSC (MS) staged samples on 10/3 16:55 @ STC cooler - per M. St Germaine rec'd by Roblez 10/10/4/12 @ 9:23AM</div> | | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| DESCRIPTION OF SHIPMENT | | | | | | MODE OF SHIPMENT | | | | | |
| 23 PIECE(S) CONSISTING OF _____ BOX(ES) | | | | | | OSC/pm(ms) delivered samples to the BD Refrig. @ 4°C | | | | | |
| 1 ICE CHEST(S); OTHER _____ | | | | | | COMMERCIAL CARRIER: _____ | | | | | |
| | | | | | | COURIER _____ | | | | | |
| | | | | | | SAMPLER CONVEYED _____ | | | | | |
| | | | | | | (SHIPPING DOCUMENT NUMBER) _____ | | | | | |
| PERSONNEL CUSTODY RECORD | | | | | | | | | | | |
| RELINQUISHED BY (SAMPLER) | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | |
| M. Seiler | | 10/3/12 | 16:55 | Nicola Roblez | | Analysis | | | | | |
| <input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | |
| | | | | | | | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | |
| | | | | | | | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | |
| | | | | | | | | | | | |

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 1 QC Code: ___ Matrix: Solid Tag ID: 5926-1-___

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Harcros Chemical Company~~ - CI sampling *Thompson - Hayward Chemical (HCC) Z.P. 10/3/12*
City: Kansas City State: Kansas
Program: Superfund
Site Name: ~~Multi-Site - General~~ *Thompson - Hayward Chemical - Kansas City - Site Evaluation Z.P. 10/3/12* Site ID: ~~07ZZ~~ *07E2* Site OU: 00
Disposition

Location Desc: BKGD, 0-1'

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: 39.09748°N Sample Collection: Start: 10/03/12 10:15
Longitude: 94.70043°W End: 10/03/12 10:30

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass } <i>i-3202</i> | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass } <i>glass</i> | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass } <i>Z.P.</i> | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - <i>10/3/12</i> | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 2 QC Code: ___ Matrix: Solid Tag ID: 5926-2-___

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Hareros Chemical Company~~ *Thompson-Hayward Chemical (THC)* - CI sampling
City: Kansas City *Z.P. 10/3/12* State: Kansas
Program: Superfund
Site Name: ~~Multi Site - General~~ *Thompson-Hayward Chemical-Kansas City - Site Evaluation/ Disposition* *Z.P. 10/3/12* Site ID: ~~07ZZ~~ *07E2* Site OU: 00

Location Desc: *BKGD, 3-4'*

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: *39.09748°N*

Sample Collection: Start: *10/03/12*

10:35

Longitude: *94.70043°W*

End: *10/03/12*

10:50

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 3 QC Code: ___ Matrix: Solid Tag ID: 5926-3-___

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Harcros Chemical Company~~ - CI sampling *Thompson-Hayward Chemical (THCC)*
City: Kansas City *Z.P. 10/3/12* State: Kansas
Program: Superfund
Site Name: ~~Multi-Site - General~~ *Z.P. 10/3/12* Site ID: ~~07ZZ~~ *07E2* Site OU: 00
Thompson-Hayward Chemical-Kansas City-Site Evaluation Z.P. 10/3/12

Location Desc: NORTH AREA, 0-1' *Disposition*

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: 39.09846°N

Sample Collection: Start: 10/03/12 10:15

Longitude: 94.69990°W

End: 10/03/12 10:30

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|---|---|--------------|---|
| <i>Z.P. 10/3/12</i> 1 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in <i>7</i> vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass | 4 Deg C <i>Z.P. 10/3/12</i> | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - <i>Z.P. 10/3/12</i> | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5926 **Sample Number:** 4 **QC Code:** ____ **Matrix:** Solid **Tag ID:** 5926-4-____

Project ID: MSHCCCI **Project Manager:** Manuel Schmaedick
Project Desc: ~~Thompson-Hayward Chemical (HCC)~~ ~~Harcros Chemical Company - CI sampling~~
City: Kansas City *Z.P. 10/3/12* **State:** Kansas
Program: Superfund
Site Name: Multi-Site - General *Z.P. 10/3/12* **Site ID:** 07ZZ **Site OU:** 00
Thompson-Hayward Chemical-Kansas City-Site Evaluation / Z.P. 10/3/12

Location Desc: NORTH AREA 2, 0-1' *disposition*

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: 39.09841°N **Sample Collection: Start:** 10/03/12 10:35
Longitude: 94.70000°W **End:** 10/03/12 10:50

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|---------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass } <i>1-32 oz glass</i> | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - <i>Z.P. 10/3/12</i> | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 5926 **Sample Number:** 5 **QC Code:** ____ **Matrix:** Solid **Tag ID:** 5926-5-____

Project ID: MSHCCCI **Project Manager:** Manuel Schmaedick
Project Desc: ~~Thompson-Hayward Chemical Company~~ - CI sampling
City: Kansas City *Z.P. 10/3/12* **State:** Kansas
Program: Superfund
Site Name: ~~Multi-Site General~~ *Z.P. 10/3/12* **Site ID:** ~~07ZZ~~ ^{07E2} **Site OU:** 00
Thompson-Hayward Chemical-Kansas City-Site Evaluation / Disposition *Z.P. 10/3/12*

Location Desc: TRENCH 1A, 3-4'

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**
Latitude: 39.09781°N **Sample Collection: Start:** 10/03/12 11:30
Longitude: 94.69989°W **End:** 10/03/12 11:45

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - | <i>Z.P. 10/3/12</i> Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 6 QC Code: ___ Matrix: Solid Tag ID: 5926-6-___

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Thompson-Hayward Chemical Company~~ - CI sampling
City: Kansas City Z.P. 10/3/12 State: Kansas
Program: Superfund
Site Name: ~~Multi-Site - General~~ Z.P. 10/3/12 Site ID: 07ZZ Site OU: 00
~~Thompson-Hayward Chemical - Kansas City - Site Evaluation~~ Z.P. 10/3/12

Location Desc: TRENCH 1B, 3-4'

Disposition

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: 39.09779°N

Sample Collection: Start: 10/03/12

11:55

Longitude: 94.69984°W

End: 10/03/12

12:10

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 15 QC Code: FD Matrix: Solid Tag ID: 5926-15-FD

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Thompson-Hayward Chemical (HCC)~~ CI sampling
City: Kansas City State: Kansas
Program: Superfund
Site Name: ~~Multi-Site - General~~ Site ID: 07ZZ Site OU: 00
~~Thompson-Hayward Chemical-Kansas City-Site Evaluation/Disposal~~

Location Desc: TRENCH 1B, 3-4'

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: 39.09779°N

Sample Collection: Start: 10/03/12

11:55

Longitude: 94.69984°W

End: 10/03/12

12:10

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 7 QC Code: ___ Matrix: Solid Tag ID: 5926-7-___

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Thompson-Hayward Chemical Company - CI sampling~~
City: Kansas City State: Kansas
Program: Superfund
Site Name: Multi-Site General ~~Thompson-Hayward Chemical-Kansas City-Site Evaluation /~~ Site ID: 07ZZ Site OU: 00
Disposal

Location Desc: TRENCH 1C, 2-3'

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: 39.09781°N Sample Collection: Start: 10/03/12 12:40
Longitude: 94.69990°W End: 10/03/12 12:55

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass } 1-32oz | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass } 8/25/12 | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass } Z.P. | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - 10/3/12 | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 8 QC Code: ___ Matrix: Solid Tag ID: 5926-8-___

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Thompson-Hayward Chemical (HCC)~~ ~~Harcros Chemical Company~~ - CI sampling
City: Kansas City Z.P. 10/3/12 State: Kansas
Program: Superfund
Site Name: ~~Multi-Site General~~ Z.P. 10/3/12 Site ID: ~~07ZZ~~ 67E2 Site OU: 00
~~Thompson-Hayward Chemical-Kansas City-Site Evaluation~~ Z.P. 10/3/12
~~Disposal~~

Location Desc: TRENCH 1D, 2-3'

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: 39.09781°N Sample Collection: Start: 10/03/12 13:50
Longitude: 94.69980°W End: 10/03/12 14:05

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 9 QC Code: ___ Matrix: Solid Tag ID: 5926-9-___

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Harcros Chemical Company~~ *Thompson-Hayward Chemical (HCC)* - CI sampling
City: Kansas City *Z.P. 10/3/12* State: Kansas
Program: Superfund
Site Name: ~~Multi-Site-General~~ *Z.P. 10/3/12* Site ID: ~~07ZZ~~ *07E2* Site OU: 00
Thompson-Hayward Chemical-Kansas City - Site Evaluation/ Disposition Z.P. 10/3/12

Location Desc: TRENCH 2A, 2-3'

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: 39.09782°N Sample Collection: Start: 10/03/12 14:50
Longitude: 94.69992°W End: 10/03/12 15:05

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - | 4 Deg C | 0 Days | 1 Percent Solid |

1-3202 glass Z.P. 10/3/12

Sample Comments:

(N/A)

Sample Collected By: TT/START

Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 5926 Sample Number: 10 QC Code: ___ Matrix: Solid Tag ID: 5926-10-___

Project ID: MSHCCCI Project Manager: Manuel Schmaedick
Project Desc: ~~Thompson-Hayward Chemical (HCC)~~ CI sampling
City: Kansas City Z.P. 10/3/12 State: Kansas
Program: Superfund
Site Name: ~~Multi-Site-General~~ Z.P. 10/3/12 Site ID: 07E2 Site OU: 00
~~Thompson-Hayward Chemical-Kansas City-Site Evaluation/~~ Z.P. 10/3/12
Disposition

Location Desc: TRENCH 2B, 4-5'

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: 39.09783°N

Sample Collection: Start: 10/03/12 15:15

Longitude: 94.69993°W

End: 10/03/12 15:30

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------------------|--|--------------|---|
| 4 - 40mL VOA vials (soil VOA 5035) | 4 Deg C, H2O + sodium bisulfate (in 2 vials) | 14 Days | 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap |
| 1 - 8 oz glass } 1-32oz | 4 Deg C | 14 Days | 1 Semi-Volatile Organic Compounds in Soil |
| 1 - 8 oz glass } 3/25 | 4 Deg C | 14 Days | 1 Pesticides in Soil by GC/EC |
| 1 - 8 oz glass } Z.P. | 4 Deg C | 14 Days | 1 Herbicides in Soil by GC/EC |
| 0 - 10/3/12 | 4 Deg C | 0 Days | 1 Percent Solid |

Sample Comments:

(N/A)

Sample Collected By: TT/START